#### REMARKS

This Response is made in light of the Office Action dated March 7, 2006. In the Office Action, claims 1, 3-8, 10-14 and 17-20 were rejected under 35 USC §103. Currently pending claims 1, 3-7, 8, 10-14, 17-20 are believed allowable, with claims 1, 8 and 11 being independent claims.

#### CLAIM REJECTIONS UNDER 35 USC §103:

Claims 1, 4-7, 11-14 and 17 were rejected under 35 USC §103 as obvious over U.S Patent No. 4,988,981 to Zimmerman et al. ("Zimmerman") in view of U.S Patent No. 6,765,553 to Odamura ("Odamura").

Claim 3 was rejected under 35 USC §103 as obvious over U.S Patent No. 4,988,981 to Zimmerman et al. ("Zimmerman") in view of U.S Patent No. 6,765,553 to Odamura ("Odamura") and in further view of U.S Patent No. 5,502,568 to Ogawa et al. ("Ogawa").

Claims 8, 10 and 18 were rejected under 35 USC §103 as obvious over U.S Patent No. 6,137,479 to Olsen et al. ("Olsen") in view of U.S Patent No. 6,765,553 to Odamura ("Odamura") and in further view of U.S Patent No. 6,304,820 to Goto et al. ("Goto").

Claim 19 was rejected under 35 USC §103 as obvious over the combination of No. 4,988,981 to Zimmerman et al. ("Zimmerman") and U.S Patent No. 6,765,553 to Odamura ("Odamura") and in further view of U.S Patent No. 5,295,204 to Parulski ("Parulski").

Claim 20 was rejected under 35 USC §103 as obvious over the combination of U.S Patent No. 6,137,479 to Olsen et al. ("Olsen"), U.S Patent No. 6,765,553 to Odamura ("Odamura") and U.S Patent No. 6,304,820 to Goto et al. ("Goto") and in further view of U.S Patent No. 5,295,204 to Parulski ("Parulski").

A prima facie case for obviousness can only be made if the combined reference documents teach or suggest all the claim limitations. MPEP 2143. Furthermore, to establish a prima facie case of obviousness, there must be some suggestion or motivation to modify the reference or to combine reference teachings. Id.

#### Claim 1:

Claim 1 recites, in part, "wherein the displacement detector comprising an image sensor, wherein an image sensed by the image sensor is processed to obtain a displacement of the device itself . . ."

Thus, claim 1 requires that the displacement of the device itself be detected by an image sensor.

In rejecting claim 1, the Examiner alleges that Zimmerman teaches an image sensor wherein an image sensed by the image sensor is processed to obtain a displacement of the device itself. OA, pg. 3. In doing so, the Examiner alleges that Zimmerman's teaching of a glove comprising sensors for detecting the gestures and position of the hand on which it is worn is equivalent to an image sensor. Id.

The Applicants respectfully submit that Zimmerman is devoid of any teaching or suggestion that the glove assembly comprises an image sensor. To the contrary, Zimmerman teaches a method of detecting the position of the glove assembly that does not include image sensing. Zimmerman discloses a gesture sensing means comprising sensors coupled to a human hand that detect the flex of that hand.

As shown in Fig. 1 of Zimmerman, the reference discloses a stationary display 28 with a plurality of ultrasonic receivers 24 located at the corners of the display. Zimmerman, col. 3, ln. 28-30 and Fig. 1. Movement of a glove assembly 12, worn by the user, controls movement of a cursor 26 on the display 28. Zimmerman, col. 3, ln. 46-52. Zimmerman states, "the glove assembly 12 contains sensors that detect the flexing of the fingers and other gestures of the hand of an operator, and also contains one or more ultrasonic transducers 17 for transmitting signals to receivers 20 to enable detecting the spatial position of the glove assembly 12 with respect to the computer display." Zimmerman, col. 3, ln. 22-28. According to Zimmerman, "the gesture sensing means includes a glove assembly with attached sensors that are responsive to the degree of flex of the fingers of the operator's hand. These flex sensors are mounted on a flexible printed circuit board and are sandwiched between an inner and an outer glove."

Zimmerman, col. 2, ln. 11-16. Zimmerman additionally teaches a hand position sensing means.

Contrary to the Examiner's assertions, the hand position sensing means of Zimmerman comprises triangulation rather than image sensing. Triangulation is a method known in the art for determining the position of an object based on its distance from at least three separate points, wherein each measurement of distance is taken at substantially the same time. Zimmerman specifies that "[t]he hand position sensing means preferably includes one or more ultrasonic transmitters affixed to the glove assembly, a stationary receiver comprising three separate spacedapart ultrasonic receiving units, and a control circuit that measures the time delay of pulsed ultrasonic signals from the transmitter to the three receivers." Zimmerman, col. 2, ln. 21-27. Another passage from Zimmerman further clarifies the method of the hand position sensing means and suggests that it does not comprise image sensing: "[t]he spatial position of the glove assembly 12 is determined by the time delay between transmission of an ultrasonic signal by transducer 17 and the reception of that signal by the receivers 20 of the position sensing receiver assembly 20." Zimmerman, col. 3, ln. 35-40.

In rejecting claim 1, the Examiner concedes that Zimmerman does not teach "providing a pointer moving device for moving the pointer on the display screen based on the detected displacement of the device itself." OA, pg. 3-4. The Examiner however alleges that Odamura teaches this element of claim 1.

The Applicants respectfully submit that Odamura fails to teach processing of an image sensed by the image sensor to obtain a displacement of the device itself. Odamura is devoid of any teaching or suggestion of an image sensor. To the contrary, Odamura teaches a "handy terminal" that detects the inclination and possibly the vibration of the terminal. Odamura, col. 1, ln. 59-60. Inclination detection as taught by Odamura comprises detecting a direction and angle but does not comprise image sensing. Specifically, Odamura describes "an inclination detector 4 which detects a direction in which the body 1 is inclined and an inclination angle by which the body 1 is inclined . . . . " Odamura, col. 5, ln. 16-18. Odamura also describes,

"a vibration detector 31 detecting vibration of the body . . . "
Odamura, col. 9, ln. 47-48. Similarly, vibration detection as taught
by Odamura comprises detecting vibration but does not comprise image
sensing.

Moreover, obviousness cannot be established by combining prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by an Examiner not does make the modification obvious unless the prior art suggested the desirability of the modification. *Id*.

The Examiner argues, "It would have been obvious . . . to utilize the handy terminal as taught by Odamura in the computer data entry disclosed by Zimmerman et al. because this would provide a method of scrolling data displayed in the display of a handy terminal." The Office Action, however, has not explained, and it not evident, why a person of ordinary skill in the art would have found it obvious to reconstruct Zimmerman to provide a method of scrolling data displayed in the display of a handy terminal. Zimmerman does not disclose a handy terminal device. Furthermore, Zimmerman does not express any appreciation for detecting inclination and possibly the vibration of a terminal. In fact, the terminal disclosed in Zimmerman is shown as a stationary unit positioned a distance away from the user. Zimmerman, col. 2, ln. 21-27 and Fig. 1. In this light, it is apparent that the only suggestion for combining Zimmerman and Odamura in the manner advanced by the Examiner stems from hindsight knowledge impermissibly derived from the Applicant's disclosure.

For at least these reasons, the Applicants respectfully submit that claim 1 is not obvious in view of Zimmerman and Odamura and earnestly solicit allowance of the claim.

#### Claims 3 and 4:

Claim 3 and 4 are dependent on and further limit claim 1. Since claim 1 is believed allowable, claims 3 and 4 are also believed

allowable for at least the same reasons as claim 1. The Applicants therefore earnestly solicit allowance of the claims.

#### Claim 5:

In the absence of an express intent to impart a novel meaning to the claim terms, the words are presumed to take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art. MPEP 2111.01 citing Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc., 334 F.3d 1294, 1298 67 USPQ2d 1132, 1136 (Fed. Cir. 2003). Thus, the Applicants can act as their own lexicographers and define in the claims what they regard as their invention essentially in whatever terms they choose so long as any special meaning assigned to a term is clearly set forth in the specification. MPEP 2173.01

Claim 5 recites, "The device according to claim 1, further comprising an operator for activating the image sensor." In rejecting claim 5, the Examiner alleges that Zimmerman teaches an operator for activating an image sensor. OA, pg. 4. In support of the Examiner's argument, the following passage is cited: "... the graphical representations of the operator's hand manipulates virtual objects or tools also displayed by the computer." Zimmerman, abstract, quoted in OA, pg. 4.

The Applicants respectfully submit that Zimmerman uses the term "operator" in a different manner than it is used by the Applicants. Zimmerman uses the word "operator" to describe a human being. This usage is demonstrated by the following citation: "the gestures and positions of the hand, or other parts of the body, of an operator." Zimmerman, col. 1, ln. 14-16. A hand is a part of a human body, and a gesture is an action made by a human being. Because the operator has a hand and may make gestures, it must therefore be a human being.

By contrast, the Applicants use the word "operator" to mean an input or other technological device providing one or more instructions to another technological device. This usage is demonstrated by the following citation: "The device may further comprise an operator activating the image sensor, wherein the image sensor is turned off while not operating the pointer, thereby restraining the power

consumption. Furthermore, the operator may comprise a function for directing a selection of an object pointed by the pointer or an execution of predetermined processing defined for the object, whereby the operator have a plurality of functions, thereby keeping the number of operator to a minimum." App., para. 0029 (emphasis added).

Thus, the cited passage of Zimmerman does not teach an operator (meaning an input or other technological device) for activating the image sensor because the passage of Zimmerman refers to a human being, not an input device.

For at least these reasons, the Applicants respectfully submit that claim 5 is not obvious in view of Zimmerman and earnestly solicit allowance of the claim.

#### Claim 6:

Claim 6 recites, "The device according to claim 5, wherein the operator further includes the function for directing a selection of an object pointed to by the pointer or for the execution of predetermined processing defined for the object, whereby the operator has a plurality of functions." In rejecting claim 6, the Examiner alleges that Zimmerman teaches an operator further including the function for directing a selection of an object. OA, pg. 4. In support of the Examiner's argument, the following passage is cited: "... glove assembly 12 contains sensors that respond to the gestures of the operator's hand. The software receives and interprets gesture indicating data from the sensors of the glove assembly 12 and enters commands into the computer 16 according to the gestures recognized. These commands relate to the manipulation of virtual objects created by the computer 16 and displayed on the display screen 28." Zimmerman, col. 4, ln. 55-62, quoted in OA, pg. 4.

The Applicants respectfully submit that Zimmerman uses the term "operator" in a different manner than it is used by the Applicants. Zimmerman uses the word "operator" to describe a human being. This usage is demonstrated by the following citation: "the gestures and positions of the hand, or other parts of the body, of an operator." Zimmerman, col. 1, ln. 14-16. A hand is a part of a human body, and a

gesture is an action made by a human being. Because the operator has a hand and may make gestures, it must therefore be a human being.

By contrast, the Applicants use the word "operator" to mean an input or other technological device providing one or more instructions to another technological device. This usage is demonstrated by the following citation: "The device may further comprise an operator activating the image sensor, wherein the image sensor is turned off while not operating the pointer, thereby restraining the power consumption. Furthermore, the operator may comprise a function for directing a selection of an object pointed by the pointer or an execution of predetermined processing defined for the object, whereby the operator have a plurality of functions, thereby keeping the number of operator to a minimum." App., para. 0029 (emphasis added).

For at least these reasons, the Applicants respectfully submit that claim 6 is not obvious in view of Zimmerman and earnestly solicit allowance of the claim.

#### Claim 7:

Claim 7 recites, "The device according to claim 1, wherein the device is of a wristwatch type." In rejecting claim 7, the Examiner alleges that Zimmerman teaches a device of a wristwatch type. OA, pg. 4. In support of the Examiner's argument, the following passage is cited: ". . . the forward and back flexing of the wrist can indicate vertical positioning of the screen cursor 26, while left and right flexing of the wrist can indicate horizontal positioning of the screen cursor." Zimmerman, col. 5, ln. 41-44, quoted in OA, pg. 4.

In making a *prima facie* case of equivalence, the Examiner should provide an explanation and rationale in the Office action as to why the prior art element is an equivalent. MPEP 2183.

The Applicants respectfully submit that the glove taught by Zimmerman is not equivalent to a device of a wristwatch type. A glove is an article of clothing which surrounds a human hand in its entirety. By contrast, a wristwatch is an article which is worn around a wrist, but which does not surround the entire hand. This definition suggests

that a device of a wristwatch type is a technological device worn around a human wrist but not surrounding the entire hand. Although the glove described by Zimmerman is configured to detect flexion of the wrist, it nonetheless surrounds an entire human hand. Therefore, the glove taught by Zimmerman is not a device of a wristwatch type.

For at least these reasons, the Applicants respectfully submit that claim 7 is not obvious in view of Zimmerman and earnestly solicit allowance of the claim.

# Claim 8:

Claim 8 recites, in part, "an image sensor, wherein an image sensed by the image sensor is processed to obtain a displacement of the device itself." It is emphasized that the presence of an image sensor is insufficient to fulfill the limitations of claim 8. Claim 8 specifically requires the use of an image sensor to process an image to obtain a displacement of the device itself.

In rejecting claim 8, the Examiner alleges that Olsen teaches "a wristwatch type device" fulfilling several requirements of the claim.

OA, pg. 10. The Examiner concedes, however, that Olsen does not teach two elements of the claim, including an image sensor. Specifically, the Office Action states, "the prior art teaches all the claim limitations with the exception of providing a touch sensor mounted in the case or the attached belt for performing a predetermined operation on an object displayed on the screen, wherein the touch sensor is provided on both sides of the display and an image sensor wherein an image sensed by the image sensor processed to obtain a displacement of the device itself." OA, pg. 10-11 (emphasis added.)

The Applicants respectfully submit that Olsen does not teach use of an image sensor to process an image to obtain a displacement of the device itself. Olsen does indeed disclose a motion sensor and an optical sensor. However, neither is equivalent to, nor does either suggest, an image sensor meeting the requirements of claim 8.

Olsen describes a motion sensor as follows:

The motion encoder 24 detects rotation of the roller ball 42 and generates signals that indicate the direction and distance the roller ball 42 moves. Other types of motion sensors may be used in accordance with the present invention. For example, devices such as friction or pressure sensors or a top mounted track ball can control the position of the cursor on the display screen 26. Alternatively, the motion encoder 24 may use optical sensing components. Olsen, col. 3, lines 56-67.

Absent from this passage or any other discussion of the motion sensor in Olsen is a teaching that the motion sensor senses an image. Furthermore, the Examiner has not produced evidence showing that the motion sensor is analogous to an image sensor, wherein an image sensed by the image sensor is processed to obtain a displacement of the device itself.

Olsen also discloses an optical sensor. However, it is respectfully submitted that any conclusion that Olsen processes the image sensed by the optical sensor to obtain a displacement of the device itself is incorrect. Olsen clearly explains, "The watch uses an optical sensor to detect changes in the image displayed on a computer display screen. The changes in the displayed image define the data transferred to the watch." Olsen, col. 1, lines 52-55 (emphasis added.) Thus, the optical sensor of Olsen is used to transmit data from a computer to a watch, much like an optical communication port. Furthermore, no mention is made by Olsen that the image sensed by the optical sensor is somehow processed to obtain a displacement of the watch itself.

The Examiner further alleges that Odamura teaches "a method of moving a cursor in a display screen of a handy terminal . . . . " OA, pg. 11. The Applicants respectfully submit that it is not evident why Odamura is relevant, as moving a cursor is not an element of claim 8. Regardless, as previously discussed in regards to claim 1, Odamura does not teach or suggest an image sensor. It follows that use of an image sensor to process an image to obtain a displacement of the device itself is a logical impossibility, because no image sensor exists to process the image.

The Examiner also alleges that Goto teaches "a touch sensor (touch panel) provided on a surface of the display screen . . . " OA, pg. 11. The Applicants respectfully submit that Goto fails to teach the claim limitation not taught by Olsen and Odamura, namely the usage of an image sensor to process an image to obtain a displacement of the device itself. Goto is devoid of any teaching or suggestion of an image sensor. To the contrary, Goto teaches a "position sensing" means to detect the position of a vehicle. Goto elaborates, "The position detector 3 is provided with a geomagnetic sensor 13, a gyroscope 14, a distance sensor 15, and a GPS (Global Positioning System) 16." Goto, col. 2, ln. 57-59. It is noted that none of the four position sensing means listed include image sensing. Neither do they suggest image sensing since image sensing is not required to achieve any of the position sensing means.

The Examiner argues, "It would have been obvious . . . to utilize the handy terminal as taught by Odamura in the system disclosed by Olsen et al. because this would provide a method of scrolling data displayed in the display of a handy terminal." The Office Action, however, has not explained, and it not evident, why a person of ordinary skill in the art would have found it obvious to reconstruct Olsen to provide a method of scrolling data displayed in the display of a handy terminal. Olsen does not express any appreciation for detecting inclination and possibly the vibration of a terminal. In this light, it is apparent that the only suggestion for combining Olsen and Odamura in the manner advanced by the Examiner stems from hindsight knowledge impermissibly derived from the Applicant's disclosure.

The Examiner further argues, "It would have been obvious . . . to utilize the touch sensor as taught by Goto et al. in the combination of Olsen et al. and Odamura because this would provide a display unit that information displayed thereon can be clearly recognized from any position." The Office Action, however, has not explained, and it not evident, why a person of ordinary skill in the art would have found it obvious to reconstruct Odamura and Olsen to provide a touch sensor. Neither Olsen nor Odamura expresses any appreciation for using touch as an input method. In this light, it is apparent that the only

suggestion for combining Goto with Olsen and Odamura in the manner advanced by the Examiner stems from hindsight knowledge impermissibly derived from the Applicant's disclosure.

For at least these reasons, the Applicants respectfully submit that claim 8 is not obvious in view of Olsen, Odamura and Goto and earnestly solicit allowance of the claim.

# Claim 10:

Claim 10 is dependent on and further limits claim 8. Since claim 8 is believed allowable, claim 10 is also believed allowable for at least the same reasons as claim 8. The Applicants therefore earnestly solicit allowance of the claim.

#### Claim 11:

Claim 11 recites, in part, "a first step of using an image sensor to take an image of a physical object facing the device continuously and detecting a relative displacement between the taken object and the display . . . ." Thus, claim 11 requires that the physical object be sensed by taking an image and further requires that the image be taken by an image sensor. It is noted that the imaging requirement is similar to a previously discussed requirement of claim 1.

In rejecting claim 11, the Examiner alleges that Zimmerman teaches "a method for moving a position pointer displayed in a display of a device . . . comprising: a first step of using an image sensor to take an image of a physical object . . . . " OA, pg. 6. In support of this position, the Examiner cites the following two passages:

. . . the present invention is especially well adapted for use with a pictorial or symbolic programming language having a dynamic cursor which corresponds in shape to the shape of the glove and moves on the screen in response to movement of the glove in space. Zimmerman, col. 2, ln. 44-48.

As the user of the system moves his hand in space, the position and orientation of the glove are continuously detected by the computer system as shown by block 140. After each determination of the position of the glove, the display 28 is updated to reflect the new glove position and orientation, as indicated by block 142. After the display is updated, the position and orientation of the

glove are checked to determine whether an object has been "picked up" on the screen. This may be achieved using any desired well known algorithm, for example, by determining whether at least two points on the representation of the glove are coincident with at least two points on the object. Zimmerman, col. 8, ln. 16-28.

The Applicants respectfully submit that neither of the cited passages teaches using an image sensor or taking an image. It is not stated that the position and orientation of the glove are detected by an image sensor or by taking an image. To the contrary, Zimmerman teaches a method of detecting the position of the glove assembly that does not comprise image sensing, as previously discussed in regards to Claim 1.

In rejecting claim 11, the Examiner concedes that Zimmerman does not teach "providing a second step for changing a display position of the pointer displayed on the display based on the detected displacement." OA, pg. 6. The Examiner however alleges that Odamura teaches this element of claim 11. The Applicants respectfully submit that Odamura fails to teach the presence of an image sensor and the taking of an image by the image sensor. As previously discussed in regard to claim 1, Odamura does not teach or suggest an image sensor. It follows that taking an image by an image sensor is a logical impossibility, because no image sensor exists to take the image.

The Examiner argues, "It would have been obvious . . . to utilize the handy terminal as taught by Odamura in the computer data entry disclosed by Zimmerman et al. because this would provide a method of scrolling data displayed in the display of a handy terminal." The Office Action, however has not explained, and it not evident, why a person of ordinary skill in the art would have found it obvious to reconstruct Zimmerman to provide a method of scrolling data displayed in the display of a handy terminal. Zimmerman does not disclose a handy terminal device. Furthermore, Zimmerman does not express any appreciation for detecting inclination and possibly the vibration of a terminal. In fact, the terminal disclosed in Zimmerman is shown as a stationary unit positioned a distance away from the user. In this light, it is apparent that the only suggestion for combining Zimmerman

and Odamura in the manner advanced by the Examiner stems from hindsight knowledge impermissibly derived from the Applicant's disclosure.

For at least these reasons, the Applicants respectfully submit that claim 11 is not obvious in view of Zimmerman and Odamura and earnestly solicit allowance of the claim.

#### Claims 12-14:

Claims 12-14 are dependent on and further limit claim 11. Since claim 11 is believed allowable, claims 12-14 are also believed allowable for at least the same reasons as claim 11. The Applicants therefore earnestly solicit allowance of the claims.

#### Claim 17:

Claim 17 recites, "The device according to claim 1, wherein the image sensor is located in a part of the display screen." In rejecting claim 7, the Examiner alleges that Zimmerman "teaches the image sensor is located in a part of the display screen . . ." OA, pg. 9. In support of the Examiner's argument, the following passage is cited: "the glove assembly 12 contains sensors that detect the flexing of the fingers and other gestures of the hand of an operator, and also contains one or more ultrasonic transducers 17 for transmitting signals to receivers 20 to enable detecting the spatial position of the glove assembly 12 with respect to the computer display." Zimmerman, col. 3, ln. 22-28, quoted in OA, pg. 9.

In making a *prima facie* case of equivalence, the Examiner should provide an explanation and rationale in the Office action as to why the prior art element is an equivalent. MPEP 2183.

The Applicants respectfully submit that Zimmerman teaches a method of detecting the position of the glove assembly that does not comprise image sensing. The reasons why Zimmerman does not disclose image sensors were previously discussed in regard to Claim 1 above. Furthermore, the only reference to a display screen in the cited passage is the following wording: ". . . detecting the spatial position of the glove assembly 12 with respect to the computer display." Zimmerman, col. 3, ln. 26-28. This wording clearly suggests that the

glove is separate from the display. Because the sensors are located in the glove, and because the glove is not in the same location as the display screen, the sensors discussed by Zimmerman are not located in the display screen.

For at least these reasons, the Applicants respectfully submit that claim 17 is not obvious in view of Zimmerman and earnestly solicit allowance of the claim.

# Claim 18:

Claim 18 is dependent on and further limits claim 8. Since claim 8 is believed allowable, claim 18 is also believed allowable for at least the same reasons as claim 8.

#### Claim 19:

Claim 19 is dependent on and further limits claim 1. Since claim 1 is believed allowable, claim 19 is also believed allowable for at least the same reasons as claim 1.

# Claim 20:

Claim 20 is dependent on and further limits claim 8. Since claim 8 is believed allowable, claim 20 is also believed allowable for at least the same reasons as claim 8.

# RECEIVED CENTRAL FAX CENTER

Patent Application No. 09/682,024

# JUL 0 7 2006

#### CONCLUSION

. In view of the forgoing remarks, it is respectfully submitted that this case is now in condition for allowance and such action is respectfully requested. If any points remain at issue that the Examiner feels could best be resolved by a telephone interview, the Examiner is urged to contact the attorney below.

Please charge Deposit Account 50-0510 the amount of \$120 for a one-month extension for the period for response to the Office Action. No other fee is believed due with this Amendment, however, should a fee be required please charge Deposit Account 50-0510. Should any additional extensions of time be required, please consider this a petition thereof and charge Deposit Account 50-0510 the required fee.

Respectfully submitted,

Dated: July 7, 2006

Ido Tuchman, Reg. No. 45,924 Law Office of Ido Tuchman 82-70 Beverly Road Kew Gardens, NY 11415 Telephone (718) 544-1110 Facsimile (718) 544-8588